
Flexible Numbering Plan

Flexible Numbering Plan (FNP) package 160 was introduced to the International marketplace as part of the X11 with Supplementary Features Group E (Phase 5) release.

FNP accommodates Global Numbering Plan requirements by modifying the Electronic Switched Network (ESN) dialing plan. The dialing plans are divided into two areas:

- On-net dialing — which deals with all the possible dialing situations required when dialing to a station located within the Local (private) Network, and
- Off-net dialing — which deals with all the possible dialing situations required when dialing to a station that is not part of the Local Network (typically the Public Numbering Plan).

FNP was enhanced in the Group F (Phase 6Biv) release to include the ability of inhibiting the time out handling process for ESN Basic Alternate Route Selection (BARS) and Network Alternate Route Selection (NARS) Special Numbers (SPN) and Coordinated Dialing Plan (CDP) Trunk Steering Codes (TSC). The enhancement ensures that all digits are collected prior to seizing a trunk. This enhancement meets Chinese requirements.

Network Alternate Route Selection (NARS) package 58 is a prerequisite for FNP.

With X11 Release 20 FNP is introduced to the Global marketplace.

FNPN interacts with both NARS and Coordinated Dialing Plan (CDP) to introduce:

- Universal Numbering Plan (UNP),
- Transferrable Directory Numbers (TNDN),
- Group Dialling Plan (GDP),
- Arbitrary length DNs on a node, and
- Free Special Number Screening (FSNS).

On-net dialing

The Flexible Numbering Plan (FNPN) feature allows any station in the network to be represented by a flexible number of digits up to a maximum of ten.

FNPN allows the length of Location Codes (LOC) to vary from node to node, as well, the total number of digits dialed to get to a station can differ for different stations.

FNPN allows flexible length DNs throughout the network, i.e., the number of digits that make up a DN can vary for different stations. An existing four digit network may want to go to five or six digit numbers when adding new switches, while keeping the existing four digit plan as is.

When Uniform Dialing Plan (UDP) is used, stations on the same switch can skip the node identification digits. The on-net LOC are represented by three- to seven-digit codes, while the total number of digits dialed can be from three to ten digits. To use the UDP, a station user dials the Location Code of the desired node, then the DN of the station at that node. The digits dialed to get to a station are the same from any switch in the network.

With Flexible Numbering Plan (FNPN), any stations on any switches are represented by a unique one to ten digit number. Moreover, DNs of different lengths can coexist on the same node. Termination of all codes is attempted when the system times out, when Inhibit Time Out Handling (ITOH) is disabled, even if the expected number of digits is not dialed. When ITOH is enabled, termination of a SPN is attempted when all expected digits are received, the number of expected digits is defined by the response to the Flexible Length (FLEN) prompt in LD 90.

When Coordinated Dialing Plan (CDP) is used, stations on any switch are

represented by unique three to ten digit numbers (since release 13). A station on one switch can call a station at another switch within the CDP group by dialing the unique three to ten digit number without access codes and associated optional pauses for dial tone. With existing features, the number of digits dialed to a particular node (NCDP) must be the same for all stations on that node. If fewer digits than NCDP are dialed, the system times out and gives overflow tone. With Flexible Numbering Plan (FNP), any stations on any switches are represented by a unique one digit to ten digits number. Moreover, DNs of different lengths can coexist on the same node. Termination is attempted when the system times out, even if the expected number of digits is not dialed.

When the Transferable DN (TNDN) scheme is used, a user can move from one location to another while retaining their DN. The TNDN scheme is supported on a one to seven digit Coordinated Dialing Plan.

Off-net dialing

Off-net dialing deals with dialing digits to reach a location which is not part of the local network, typically a public exchange station, but also includes stations which are part of another private network.

Flexible numbering is the use of inconsistent dialing patterns which exist in international locations. In North America the dialing plans are fixed length, NXX + XXXX or NPA + NXX + XXXX and ESN dialing plan formats are designed to respond to these consistent dialing patterns. Since this is not the case internationally, Flexible Numbering Plan (FNP) allows users to dial numbers of varying lengths to terminate at a destination. Flexibility of the number of digits which can be dialed is achieved by using SPNs.

An Alternate Remote Routing Number (ARRN) capability is also introduced for SPNs under the Supplemental Digit Restriction or Recognition (SDRR) table.

End-of-dial timing

All NARS end-of-dial timing procedures apply to FNP along with the FNP unique Flexible Length (FLEN) processing. If the user dials the number of digits as defined by the response to the FLEN prompt, then the software considers dialing as being complete and analyzes the digits for call processing purposes. If the Inhibit Time Out Handler (ITOH) procedures are active and the response to FLEN is a value other than zero "0", then if NIT expires or

the user dials # prior to the number of digits input in response to the FLEN prompt are dialed, no attempt is made to complete the call.

ESN feature interactions

ESN features operate the same way they did prior to the introduction of FNP if FLEN is set to zero. When used along with ISDN, FNP supports features which are currently supported jointly by ESN and ISDN.

Feature operation and implementation

For further details regarding the operation and implementation of a Flexible Numbering Plan refer to *Flexible Numbering Plan Description, operation, and administration* (553-2751-105).